

CLAIMS

1. In a computer system including a data bus, a method comprising steps of:

- (A) transmitting at least one status request message over the data bus to a first plurality of devices coupled to the data bus; and
- (B) receiving over the data bus a status indicator message including a plurality of status indicators indicating statuses of the first plurality of devices.

2. The method of claim 1, wherein the step (A) comprises steps of:

- (A) (1) addressing a second plurality of devices coupled to the data bus using a primary address shared by the second plurality of devices; and
- (A) (2) addressing the first plurality of devices using a secondary address shared by the first plurality of devices, wherein the first plurality of devices comprises a subset of the second plurality of devices.

3. The method of claim 2, wherein the step (A) (1) comprises a step of transmitting the primary address over the data bus, and wherein the step (A) (2) comprises a step of transmitting the secondary address over the data bus.

4. The method of claim 1, wherein the data bus comprises a serial data bus.

5. The method of claim 4, wherein the data bus comprises an I²C bus.

6. The method of claim 1, wherein the status indicator message comprises a message defined according to a protocol associated with the data bus.

7. The method of claim 1, wherein the at least one status request message comprises a message defined according to a protocol associated with the data bus.

8. The method of claim 7, wherein the at least one status request message is a single message defined according to the protocol associated with the data bus.

9. The method of claim 1, further comprising a step of:
(C) ascertaining the status of at least some of the plurality of slave devices by examining the status indicators.

10. The method of claim 1, wherein the status indicators comprise bits.

11. The method of claim 10, wherein the status indicators comprise IRQ status bits.

12. In a computer system including a serial data bus, a method comprising steps of:

- (A) transmitting at least one status request message over the data bus to a first plurality of devices coupled to the data bus, wherein the at least one status request message comprises a first message defined according to a protocol associated with the serial data bus; and
- (B) receiving over the data bus a status indicator message including a plurality of status indicator bits indicating statuses of the first plurality of devices, wherein the status indicator message comprises a second message defined according to the protocol associated with the data bus.

13. In a computer system including a data bus, a device comprising:

means for transmitting at least one status request message over the data bus to a first plurality of devices coupled to the data bus; and

means for receiving over the data bus a status indicator message including a plurality of status indicators indicating statuses of the first plurality of devices.

14. The device of claim 13, wherein the means for transmitting comprises:

means for addressing a second plurality of devices coupled to the data bus using a primary address shared by the second plurality of devices; and

means for addressing the first plurality of devices using a secondary address shared by the first plurality of devices, wherein the first plurality of devices comprises a subset of the second plurality of devices.

15. The device of claim 14, wherein the means for addressing the second plurality of devices comprises means for transmitting the primary address over the data bus, and wherein the means for addressing the first plurality of devices comprises means for transmitting the secondary address over the data bus.

16. The device of claim 13, wherein the data bus comprises a serial data bus.

17. The device of claim 16, wherein the data bus comprises an I²C bus.

18. The device of claim 13, wherein the status indicator message comprises a message defined according to a protocol associated with the data bus.

19. The device of claim 13, wherein the at least one status request message comprises a message defined according to a protocol associated with the data bus.

20. The method of claim 19, wherein the at least one status request message is a single message defined according to the protocol associated with the data bus.

21. The device of claim 13, further comprising:

means for ascertaining the status of at least some of the plurality of slave devices by examining the status indicators.

22. The device of claim 13, wherein the status indicators comprise bits.

23. The device of claim 22, wherein the status indicators comprise IRQ status bits.

24. In a computer system including a serial data bus, a device comprising:

means for transmitting at least one status request message over the data bus to a first plurality of devices coupled to the data bus, wherein the at least one status request message comprises a first message defined according to a protocol associated with the serial data bus; and

means for receiving over the data bus a status indicator message including a plurality of status indicator bits indicating statuses of the first plurality of devices, wherein the status indicator message comprises a second message defined according to the protocol associated with the data bus.

25. In a computer system including a data bus, a method comprising steps of:

- (A) receiving at least one status request message over the data bus from a master device; and
- (B) transmitting to the master device over the data bus a status indicator message including a plurality of status indicators indicating statuses of a plurality of slave devices coupled to the data bus.

26. The method of claim 25, wherein the step (A) is performed by at least one slave device coupled to the data bus, and wherein the step (A) comprises steps of:

- (A) (1) receiving a primary address over the data bus from the master device;
- (A) (2) receiving a secondary address over the data bus from the master device;
- (A) (3) determining whether the primary address is associated with the at least one slave device;
- (A) (4) if it is determined in the step (A) (3) that the primary address is associated with the at least one slave device, determining whether the secondary address is associated with the at least one slave device; and
- (A) (5) if it is determined in the step (A) (4) that the secondary address is associated with the at least one slave device, receiving the status request message from the master device over the data bus.

27. The method of claim 25, wherein the data bus comprises a serial data bus.

28. The method of claim 27, wherein the data bus comprises an I²C bus.

29. The method of claim 25, wherein the status indicator message comprises a message defined according to a protocol associated with the data bus.

30. The method of claim 25, wherein the at least one status request message comprises a message defined according to a protocol associated with the data bus.

31. The method of claim 25, wherein the step (B) is performed by a plurality of slave devices coupled to the data bus, each of said plurality of slave devices providing at least one of the plurality of status indicators to the status indicator message.

32. The method of claim 25, wherein the status indicators comprise bits.

33. The method of claim 32, wherein the status indicators comprise IRQ status bits.

34. In a computer system including a serial data bus, a method comprising steps of:

- (A) receiving at least one status request message over the data bus from a master device, wherein the at least one status request message comprises a first message defined according to a protocol associated with the serial data bus; and
- (B) transmitting to the master device over the data bus a status indicator message including a plurality of status indicator bits indicating statuses of a plurality of slave devices coupled to the data bus, wherein the status indicator message comprises a second message defined according to the protocol associated with the serial data bus.

35. In a computer system including a data bus, a system comprising:

means for receiving at least one status request message over the data bus from a master device; and

means for transmitting to the master device over the data bus a status indicator message including a plurality of status indicators indicating statuses of a plurality of slave devices coupled to the data bus.

36. The system of claim 35, wherein at least one slave device coupled to the data bus includes the means for receiving, and wherein the means for receiving comprises:

means for receiving a primary address over the data bus from the master device;

means for receiving a secondary address over the data bus from the master device;

means for determining whether the primary address is associated with the at least one slave device;

means for determining whether the secondary address is associated with the at least one slave device; and

means for receiving the status request message from the master device over the data bus if it is determined that the secondary address is associated with the at least one slave device.

37. The system of claim 35, wherein the data bus comprises a serial data bus.

38. The system of claim 37, wherein the data bus comprises an I²C bus.

39. The system of claim 35, wherein the status indicator message comprises a message defined according to a protocol associated with the data bus.

40. The system of claim 35, wherein the at least one status request message comprises a message defined according to a protocol associated with the data bus.

41. The system of claim 35, wherein a plurality of slave devices coupled to the data bus include the means for transmitting, and wherein each of said plurality of slave devices comprises means for providing at least one of the plurality of status indicators to the status indicator message.

42. The system of claim 35, wherein the status indicators comprise bits.

43. The system of claim 42, wherein the status indicators comprise IRQ status bits.

44. In a computer system including a serial data bus, a system comprising:

means for receiving at least one status request message over the data bus from a master device, wherein the at least one status request message comprises a first message defined according to a protocol associated with the serial data bus; and

means for transmitting to the master device over the data bus a status indicator message including a plurality of status indicator bits indicating statuses of a plurality of slave devices coupled to the data bus, wherein the status indicator message comprises a second message defined according to the protocol associated with the serial data bus.